

**WHAT IS CLAIMED IS:**

1. A vocal training device, comprising:

means for tactile biofeedback, said tactile  
5 biofeedback means adapted to assist a vocal trainee achieve  
a desired vocal output.

2. The vocal training device of Claim 1, further  
comprising an interactive unit adapted to compare and  
10 analyze a vocal trainee generated note against a target  
note generated by said interactive unit.

3. The vocal training device of Claim 2, wherein the  
vocal trainee generated note is conveyed to said  
15 interactive unit via a microphone.

4. The vocal training device of Claim 3, wherein  
said target note is audibly generated by said interactive  
unit by selecting a corresponding target note key.

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5. The vocal training device of Claim 4, further  
comprising means for auditory biofeedback, said auditory

biofeedback means adapted to assist the vocal trainee achieve a desired vocal output.

6. The vocal training device of Claim 5, wherein  
5 said auditory biofeedback means is an earpiece.

7. The vocal training device of Claim 6, wherein  
audibly generated said target note is conveyed to said  
earpiece for audible reception and biofeedback to the vocal  
10 trainee.

8. The vocal training device of Claim 7, wherein the  
vocal trainee generated note is conveyed to said  
interactive unit, compared and analyzed against said target  
15 note, and subsequently looped back to said earpiece for  
audible reception and biofeedback to the vocal trainee.

9. The vocal training device of Claim 8, further  
comprising means for visual biofeedback, said visual  
20 biofeedback means adapted to assist the vocal trainee  
achieve a desired vocal output.

10. The vocal training device of Claim 9, wherein said visual biofeedback means is a visual graphical interface for visually conveying vocal training information to the vocal trainee.

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11. The vocal training device of Claim 10, wherein said target note is visually generated on said visual graphical interface by said interactive unit by selecting a corresponding target note key.

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12. The vocal training device of Claim 11, wherein visually generated said target note is in Roman alphabet format corresponding to said target note.

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13. The vocal training device of Claim 12, wherein visually generated said target note is in the form of an indicator light corresponding to said target note.

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14. The vocal training device of Claim 13, wherein the vocal trainee generated note is conveyed to said interactive unit, compared and analyzed against said target note, and subsequently displayed in Roman alphabet format on said visual graphical interface for visual comparison of

same against said target note also displayed in Roman  
alphabet format on said visual graphical interface.

15. The vocal training device of Claim 14, wherein  
5 the vocal trainee generated note is conveyed to said  
interactive unit, compared and analyzed against said target  
note, and subsequently displayed as an indicator light on  
said visual graphical interface for visual comparison of  
same against said target note also displayed as an  
10 indicator light on said visual graphical interface.

16. The vocal training device of Claim 3, wherein  
said tactile biofeedback means is a physical vibration  
sensed by the vocal trainee.

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17. The vocal training device of Claim 16, wherein  
said tactile biofeedback means is selected from the group  
consisting of vibrational pads worn against the throat of  
the vocal trainee, vibrational helmets, vibrational  
20 earpiece, vibrational nosepiece, vibrational shoes,  
vibrational wristband, vibrational vest, vibrational chest  
piece, vibrational belt, vibrational body suit, vibrational  
, eyewear, vibrational skullcap, vibrational head apparel,

vibrational headgear, vibrational forearm unit, vibrational gel floor mat, and combinations thereof.

18. The vocal training device of Claim 17, wherein  
5 said target note is translated into a physical vibration by  
said interactive unit by selecting a corresponding target  
note key, and wherein said physical vibration is  
subsequently conveyed to the vocal trainee for physical or  
tactile perception of same.

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19. The vocal training device of Claim 18, wherein  
adjusting the vocal trainee generated note to match said  
target note, and thus minimize discordance between same,  
results in a seemingly corresponding diminishment of said  
15 physical vibration sensed by the vocal trainee.

20. A vocal training device, comprising:

means for tactile biofeedback;

means for auditory biofeedback; and,

20 means for visual biofeedback,

wherein said tactile biofeedback means, said auditory  
biofeedback means and said visual biofeedback means are

adapted to assist a vocal trainee achieve a desired vocal output.

21. The vocal training device of Claim 20, further  
5 comprising an interactive unit adapted to compare and  
analyze a vocal trainee generated note against a target  
note generated by said interactive unit.

22. The vocal training device of Claim 21, wherein  
10 the vocal trainee generated note is conveyed to said  
interactive unit via a microphone.

23. The vocal training device of Claim 22, wherein  
said target note is audibly generated by said interactive  
15 unit by selecting a corresponding target note key.

24. The vocal training device of Claim 23, wherein  
said auditory biofeedback means is an earpiece.

20 25. The vocal training device of Claim 24, wherein  
audibly generated said target note is conveyed to said  
earpiece for audible reception and biofeedback to the vocal  
trainee.

26. The vocal training device of Claim 25, wherein the vocal trainee generated note is conveyed to said interactive unit, compared and analyzed against said target note, and subsequently looped back to said earpiece for  
5 audible reception and biofeedback to the vocal trainee.

27. The vocal training device of Claim 26, wherein said visual biofeedback means is a visual graphical interface for visually conveying vocal training information  
10 to the vocal trainee.

28. The vocal training device of Claim 27, wherein said target note is further visually generated on said visual graphical interface by said interactive unit by  
15 selecting said corresponding target note key.

29. The vocal training device of Claim 28, wherein the vocal trainee generated note is conveyed to said interactive unit, compared and analyzed against said target  
20 note, and subsequently displayed in Roman alphabet format on said visual graphical interface for visual comparison of same against said target note also displayed in Roman alphabet format on said visual graphical interface.

30. The vocal training device of Claim 29, wherein the vocal trainee generated note is conveyed to said interactive unit, compared and analyzed against said target note, and subsequently displayed as an indicator light on said visual graphical interface for visual comparison of same against said target note also displayed as an indicator light on said visual graphical interface.

31. The vocal training device of Claim 30, wherein said tactile biofeedback means is a physical vibration sensed by the vocal trainee.

32. The vocal training device of Claim 31, wherein said tactile biofeedback means is selected from the group consisting of vibrational pads worn against the throat of the vocal trainee, vibrational helmets, vibrational earpiece, vibrational nosepiece, vibrational shoes, vibrational wristband, vibrational vest, vibrational chest piece, vibrational belt, vibrational body suit, vibrational eyewear, vibrational skullcap, vibrational head apparel, vibrational headgear, vibrational forearm unit, vibrational gel floor mat, and combinations thereof.



33. The vocal training device of Claim 32, wherein  
said target note is translated into a physical vibration by  
said interactive unit by selecting said corresponding  
target note key, and wherein said physical vibration is  
5 subsequently conveyed to the vocal trainee for physical or  
tactile perception of same.

34. The vocal training device of Claim 33, wherein  
adjusting the vocal trainee generated note to match said  
10 target note results in harmonization of said target note  
and the vocal trainee generated note as audibly perceived  
by the vocal trainee via said earpiece.

35. The vocal training device of Claim 34, wherein  
15 adjusting the vocal trainee generated note to match said  
target note results in the vocal trainee generated note  
being reassigned a note value displayed in said Roman  
alphabet format corresponding to or matching said target  
note as displayed in said Roman alphabet format on said  
20 visual graphical interface.

36. The vocal training device of Claim 35, wherein  
adjusting the vocal trainee generated note to match said

target note results in the vocal trainee generated note being reassigned a note value displayed as said indicator light corresponding to or matching said target note as displayed as another said indicator light on said visual  
5 graphical interface.

37. The vocal training device of Claim 35, wherein adjusting the vocal trainee generated note to match said target note results in a corresponding and progressive  
10 change in color of said indicator light to match a stagnate color of another said indicator light corresponding to said target note as displayed on said visual graphical interface.

15 38. The vocal training device of Claim 35, wherein adjusting the vocal trainee generated note to match said target note results in a corresponding and progressive change in color of a series of indicator lights to match a stagnate color of an indicator light corresponding to said  
20 target note as displayed on said visual graphical interface.

39. The vocal training device of Claim 36, wherein adjusting the vocal trainee generated note to match said target note, and thus minimize discordance between same, results in a seemingly corresponding diminishment of said physical vibration sensed by the vocal trainee.

40. The vocal training device of Claim 39, further comprising an external speaker system for providing the vocal trainee with additional auditory biofeedback.

41. The vocal training device of Claim 40, further comprising an means for recoding the vocal trainee's vocal training session for subsequent analysis of same.

42. A method of vocal training, comprising the steps of:

- a. generating a vocal pitch; and,
- b. adjusting the vocal pitch to match a target note translated into a sensed biofeedback, said sensed biofeedback selected from the group consisting of visual biofeedback, auditory biofeedback, tactile biofeedback, and combinations thereof.

43. A method of vocal training, comprising the steps  
of:
- a. obtaining a vocal training device, comprising:  
means for tactile biofeedback;  
5 means for auditory biofeedback; and,  
means for visual biofeedback; and,
  - b. selecting a target note for vocal reproduction;
  - c. generating an auditory pitch corresponding to the  
pitch of said target note;
  - 10 d. audibly recognizing said auditory pitch via said  
auditory biofeedback means;
  - e. visually recognizing said auditory pitch via said  
visual biofeedback means;
  - f. generating a physical vibration corresponding to  
15 the frequency of said target note;
  - g. tactilely recognizing said physical vibration via  
said tactile biofeedback means;
  - h. producing said auditory pitch into a vocalized  
pitch;
  - 20 i. sensing the discordant biofeedback between said  
auditory pitch and said vocalized pitch via said  
tactile biofeedback means; and,

j. adjusting said vocalized pitch to match said auditory pitch by minimizing said discordant biofeedback as recognized by a seemingly corresponding diminishment of said physical vibration.

44. A vocal training device, comprising:

an earpiece adapted to vibrate upon encounter of user-generated sound waves, thereby providing the user with tactile biofeedback.

45. The vocal training device of Claim 44, further comprising a main chamber bifurcated by a vibratory membrane.

46. The vocal training device of Claim 45, wherein a first chamber of said main chamber is adapted to receive and deflect an ambient reference pitch, thereby resulting in vibration of said vibratory membrane.

47. The vocal training device of Claim 46, wherein a second chamber of said main chamber is adapted to receive

the user-generated sound waves for disruption, and thus, further vibration of said vibratory membrane.

48. The vocal training device of Claim 47, wherein  
5 vibrations from said vibratory membrane are channeled into the user's ear canal for tactile reception and sensing of same as tactile biofeedback.

49. The vocal training device of Claim 48, wherein  
10 user sensation of discordant biofeedback between the user-generated sound waves and said ambient reference pitch, as sensed by the user via discordant vibrations delivered via said vibrating vibratory membrane, enables the user to adjust his/her user-generated sound waves in an attempt to  
15 minimize the discordant biofeedback as recognized by a seemingly corresponding diminishment of said tactile biofeedback.